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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,259	07/11/2003	Seung-Gu Na	45387	2412
<div>7590 09/24/2007 Christian C. Michel Roylance, Abrams, Berdo & Goodman, L.L.P. Suite 600 1300 19th Street, N.W. Washington, DC 20036</div>			<div>EXAMINER VIANA DI PRISCO, GERMAN</div>	
			<div>ART UNIT 2616</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 09/24/2007</div>	<div>DELIVERY MODE PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/617,259	Applicant(s) NA ET AL.	
	Examiner German Viana Di Prisco	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/26/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicants' amendment filed on June 26, 2007.

Claims 1-22 are now pending in the present application. This office action is made final.

Drawings

2. The drawings were received on June 26, 2007. These drawings are accepted..

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 2616

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999) and further in view of Olsson et al (United States Patent No.: US 6,577,596 B1).

Consider claim 1, Sasaki clearly shows and discloses a method for transmitting compressed packet data in a packet communication network, comprising the steps of: determining an operating state of the network and deciding a period for transmitting a full packet based on said operating state and transmitting full packets during periodic transmission times according to the decided full packet transmission period and transmitting compressed packets during other transmission times (abstract, column 1 lines 43-49, column 4 lines 36-43, figures 5 and 8).

However Sasaki does not specifically disclose that the compressed packets have compressed headers.

In the same field of endeavor Degermark et al disclose a method for header compression wherein uncompressed headers are transmitted during periodic transmission (F_Max_Period) times according to a decided full-packet transmission

period, and compressed packets are transmitted during other transmission times (page 42 section 14).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit uncompressed headers during periodic transmission times and uncompressed headers during other transmission times as disclosed by Degermark et al in the method of Sasaki for the purpose of improving the efficiency of transmission in a system transmitting packet data having a compressed header.

Nonetheless, Sasaki as modified by Degermark et al do not specifically teach that if the operating state of the network is determined to be congested, the period for transmitting a full packet is set to be small, such that uncompressed headers are transmitted more often.

In the same field of endeavor Olsson et al teach that if the operating state of the network is determined to be congested, the period for transmitting a full packet is set to be small, such that uncompressed headers are transmitted more often (according to figure 5B, it is determined in steps 556,557 and 560 whether the queues are full i.e. congested and in the case when the queues are full , header compression is not performed. Otherwise, header compression may be performed (column 10 lines 39-65). In figure 6, header compression may be performed when queues are not full, i.e. not congested (column 11 lines 37-55).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the period for transmitting full packets small when the network is congested such that uncompressed headers are transmitted more often as taught by Olsson et al in the method of Sasaki as modified by Degermark et al in order to prevent delays and disruption of real time data caused by having to re-transmit full headers.

Consider claim 13, Sasaki clearly shows and discloses an apparatus for transmitting packet data in a packet communication network, comprising: a controller for determining an operating state of the network (network's busy-state monitoring unit 8a and 8b) and deciding a period for transmitting a full packet based on said operating state; and a transmitter (network transmission/reception unit 7a and 7b) for transmitting full packets during periodic transmission times based on the decided full-packet transmission period, and transmitting compressed packets during other transmission times (abstract, column 1 lines 43-49, column 4 lines 36-43, figure 5 and 6)..

However Sasaki does not specifically disclose that the compressed packets have compressed headers.

In the same field of endeavor Degermark et al disclose a method for header compression wherein uncompressed headers are transmitted during periodic transmission (F_Max_Period) times according to a decided full-packet transmission period, and compressed packets are transmitted during other transmission times (page 42 section 14).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit uncompressed headers during periodic transmission times and uncompressed headers during other transmission times as disclosed by Degermark et al in the apparatus of Sasaki for the purpose of improving the efficiency of transmission in a system transmitting packet data having a compressed header.

Nonetheless, Sasaki as modified by Degermark et al do not specifically teach that if the operating state of the network is determined to be congested, the period for transmitting a full packet is set to be small by the controller, such that uncompressed headers are transmitted more often.

In the same field of endeavor Olsson et al teach that if the operating state of the network is determined to be congested, the period for transmitting a full packet is set to be small, such that uncompressed headers are transmitted more often (according to figure 5B, it is determined in steps 556, 557 and 560 whether the queues are full i.e. congested and in the case when the queues are full, header compression is not performed. Otherwise, header compression may be performed (column 10 lines 39-65). In figure 6, header compression may be performed when queues are not full, i.e. not congested (column 11 lines 37-55).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to set the period for transmitting full packets small when the network is congested such that uncompressed headers are transmitted more often

as taught by Olsson et al in the apparatus of Sasaki as modified by Degermark et al in order to prevent delays and disruption of real time data caused by having to re-transmit full headers.

9. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999) and Olsson et al (United States Patent No.: US 6,577,596 B1) and further in view of Kronz (United States Patent Application Publication No.: 2003/0086373 A1).

Consider claim 2, and as applied to claim 1 above, Sasaki as modified by Degermark et al and Olsson et al fail to disclose a method wherein the step of deciding the transmission period comprises the steps of producing a packet retransmission ratio as a ratio of the number of retransmitted packets to the number of packets transmitted in a latest period of measurement of the operating state of the network; and deciding the full-packet transmission period based on said packet retransmission ratio.

In the same field of endeavor Kronz discloses a transmission method wherein a retransmission ratio is calculated to estimate the current congestion level in the network (page 3 paragraphs [0041]-[0044]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the retransmission ratio to estimate the current congestion level in the network as disclosed by Kronz in the method of Sasaki as

modified by Degermark et al and Olsson et al for the purpose of deciding the full-packet transmission period.

Consider claim 14, and as applied to claim 13 above, Sasaki as modified by Degermark et al and Olsson et al fail to disclose an apparatus wherein the controller produces a packet retransmission ratio as a ratio of the number of retransmitted packets to the number of packets transmitted in a latest period of measurement of the operating state of the network; and deciding the full-packet transmission period based on said packet retransmission ratio.

In the same field of endeavor Kronz discloses a transmission method wherein a retransmission ratio is calculated to estimate the current congestion level in the network (page 3 paragraphs [0041]-[0044]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the retransmission ratio to estimate the current congestion level in the network as disclosed by Kronz in the apparatus of Sasaki as modified by Degermark et al and Olsson et al for the purpose of deciding the full-packet transmission period.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999), Olsson et al (United States Patent No.: US 6,577,596 B1) and Kronz (United States Patent Application Publication

No.: 2003/0086373 A1), and further in view of Schulzrinne et al (Network Working Group, Request for Comments: 1889, January 1996).

Regarding claim 3, and as applied to claim 2 above, Sasaki as modified by Degermark et al, Olsson et al and Kronz fail to disclose that a period for determining the operating state of the network is the same as a period for transmitting state information according to a real-time transmission protocol (RTP).

In the same field of endeavor, Schulzrinne et al disclose a real-time transmission protocol (RTP), wherein control packets with state information are transmitted periodically at intervals of no less than 5 seconds apart (pages 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use the same intervals used by the RTP protocol to transmit state information as disclosed by Schulzrinne et al in the method of Sasaki as modified by Degermark et al, Olsson et al and Kronz in order to determine the operating state of the network.

11. Claims 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999), Olsson et al (United States Patent No.: US 6,577,596 B1) and Kronz (United States Patent Application

Publication No.: 2003/0086373 A1), and further in view of Traversat et al (United States Patent Application Publication No.: 2002/0152299 A1).

Consider claim 4, and as applied to claim 2 above, Sasaki as modified by Degermark et al, Olsson et al and Kronz disclose a header compression method wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11).

However Sasaki as modified by Degermark et al, Olsson et al and Kronz fail to disclose that the full-packet transmission period is decided as a first value if the packet retransmission ratio is at or above a predetermined high-level threshold; the full-packet transmission period is decided as a second value being greater than the first value if the packet retransmission ratio is at or below a predetermined low-level threshold; and the full-packet transmission period is decided as a third value between the first value and the second value if the packet retransmission ratio is between the low-level threshold and the high-level threshold.

In the same field of endeavor, Traversat et al disclose a method for establishing reliable connections between peers in a peer-to-peer networking environment wherein the size of the transmission window may be dynamically adjusted based upon evaluation of the retransmission ratio (abstract, page 17 paragraph [0185]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to use the retransmission ratio to adjust the transmission window as disclosed by Traversat et al in the method of Sasaki as

Art Unit: 2616

modified by Degermark et al, Olsson et al and Kronz in order to decide the full-packet transmission period.

Consider claims 5 and 6, and as applied to claim 4 above Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al disclose a header compression method wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11) based upon the retransmission ratio (Traversat et al: abstract, page 17 paragraph [0185]).

However Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al do not expressly disclose deciding the full-packet transmission period to be "1" or twice a third value.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to establish full-packet transmission periods values based on the quality and reliability of the network communication channel. Applicant has not disclosed that using a period of "1" or twice a third value provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other values of the full-packet transmission period because said values are based upon the quality and reliability of the network communication channel.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al to obtain the invention as specified in claims 5 and 6.

Consider claim 15, and as applied to claim 14 above, Sasaki as modified by Degermark et al, Olsson et al and Kronz disclose an apparatus for header compression wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11).

However Sasaki as modified by Degermark et al, Olsson et al and Kronz fail to disclose that the full-packet transmission period is decided as a first value if the packet retransmission ratio is at or above a predetermined high-level threshold; the full-packet transmission period is decided as a second value being greater than the first value if the packet retransmission ratio is at or below a predetermined low-level threshold; and the full-packet transmission period is decided as a third value between the first value and the second value if the packet retransmission ratio is between the low-level threshold and the high-level threshold.

In the same field of endeavor, Traversat et al disclose a method for establishing reliable connections between peers in a peer-to-peer networking environment wherein the size of the transmission window may be dynamically adjusted based upon evaluation of the retransmission ratio (abstract, page 17 paragraph [0185]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to use the retransmission ratio to adjust the transmission window as disclosed by Traversat et al in the apparatus of Sasaki as modified by Degermark et al, Olsson et al and Kronz in order to decide the full-packet transmission period.

Consider claims 16 and 17, and as applied to claim 15 above Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al disclose a header compression apparatus wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11) based upon the retransmission ratio (Traversat et al: abstract, page 17 paragraph [0185]).

However Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al do not expressly disclose deciding the full-packet transmission period to be "1" or twice a third value.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to establish full-packet transmission periods values based on the quality and reliability of the network communication channel. Applicant has not disclosed that using a period of "1" or twice a third value provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other values of the full-packet transmission period because said values are based upon the quality and reliability of the network communication channel.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Sasaki as modified by Degermark et al, Olsson et al, Kronz, and Traversat et al to obtain the invention as specified in claims 16 and 17.

12. Claims 7,8,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network

Working Group, Request for Comments: 2507, February 1999), Olsson et al (United States Patent No.: US 6,577,596 B1) and further in view of Loguinov (United States Patent Application Publication No.: 2002/0124096 A1).

Consider claim 7, as applied to claim 1 above, and claim 8, as applied to claim 7, Sasaki as modified by Degermark et al and Olsson et al fail to disclose a method wherein the step of deciding the transmission period comprises the steps of: producing a packet retransmission ratio as a ratio of the number of retransmitted packets to the number of packets transmitted in a latest period of measurement of the operating state of the network; accumulating the produced packet retransmission ratio and other packet retransmission ratios produced during previous measurement times and producing an average packet retransmission ratio; and deciding the full-packet transmission period according to the produced average packet retransmission ratio.

Claims 7 and 8 essentially disclose the operation of an exponentially weighted moving average filter. In the same field of endeavor, Loguinov et al disclose a method for estimating retransmission timeout based upon an exponentially weighted moving average filter of past round trip times (page 1 paragraphs [0008]-[0010]).

Therefore it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use an exponentially weighted moving average filter as disclosed by Loguinov et al in the method of Sasaki as modified by Degermark et al and Olsson et al in order to produce an average packet retransmission ratio used to decide the full-packet transmission period.

Consider claim 18, as applied to claim 13 above, and claim 19, as applied to claim 18, Sasaki as modified by Degermark et al and Olsson et al fail to disclose an apparatus wherein the controller produces a packet retransmission ratio as a ratio of the number of retransmitted packets to the number of packets transmitted in a latest period of measurement of the operating state of the network; accumulates the produced packet retransmission ratio and other packet retransmission ratios produced during previous measurement times and produces an average packet retransmission ratio; and decides the full-packet transmission period according to the produced average packet retransmission ratio.

Claims 18 and 19 essentially disclose the operation of an exponentially weighted moving average filter. In the same field of endeavor, Loguinov et al disclose a method for estimating retransmission timeout based upon an exponentially weighted moving average filter of past round trip times (page 1 paragraphs [0008]-[0010]).

Therefore it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to use an exponentially weighted moving average filter as disclosed by Loguinov et al in the apparatus of Sasaki as modified by Degermark et al and Olsson et al in order to produce an average packet retransmission ratio used to decide the full-packet transmission period.

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999), Olsson et al (United States

Patent No.: US 6,577,596 B1) and Loguinov (United States Patent Application Publication No.: 2002/0124096 A1) above, and further in view of Schulzrinne et al (Network Working Group, Request for Comments: 1889, January 1996).

Consider claim 9, and as applied to claim 7 above, Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al fail to disclose that a period for determining the operating state of the network is the same as a period for transmitting state information according to a real-time transmission protocol (RTP).

In the same field of endeavor, Schulzrinne et al disclose a real-time transmission protocol (RTP), wherein control packets with state information are transmitted periodically at intervals of no less than 5 seconds apart (pages 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use the same intervals used by the RTP protocol to transmit state information as disclosed by Schulzrinne et al in the method of Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al in order to determine the operating state of the network.

14. Claims 10-12 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (United States Patent No.: 5,761,438) in view of Degermark et al (Network Working Group, Request for Comments: 2507, February 1999), Olsson et al (United States Patent No.: US 6,577,596 B1) and Loguinov (United States Patent Application Publication No.: 2002/0124096 A1) and further in view of Traversat (United States Patent Application Publication No.: 2002/0152299 A1).

Consider claim 10, and as applied to claim 7 above, Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al disclose a header compression method wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11).

However Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al fail to disclose that the full-packet transmission period is decided as a first value if the packet retransmission ratio is at or above a predetermined high-level threshold; the full-packet transmission period is decided as a second value being greater than the first value if the packet retransmission ratio is at or below a predetermined low-level threshold; and the full-packet transmission period is decided as a third value between the first value and the second value if the packet retransmission ratio is between the low-level threshold and the high-level threshold.

In the same field of endeavor, Traversat et al disclose a method for establishing reliable connections between peers in a peer-to-peer networking environment wherein the size of the transmission window may be dynamically adjusted based upon evaluation of the retransmission ratio (abstract, page 17 paragraph [0185]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to use the retransmission ratio to adjust the transmission window as disclosed by Traversat et al in the method of Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al in order to decide the full-packet transmission period

Consider claims 11 and 12, and as applied to claim 10 above Sasaki as modified by Degermark et al, Olsson et al Loguinov et al, and Traversat et al disclose a header compression method wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11) based upon the retransmission ratio (Traversat et al: abstract, page 17 paragraph [0185]).

However Sasaki as modified by Degermark et al, Olsson et al, Loguinov et al, and Traversat et al do not expressly disclose deciding the full-packet transmission period to be "1" or twice a third value.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to establish full-packet transmission periods values based on the quality and reliability of the network communication channel. Applicant has not disclosed that using a period of "1" or twice a third value provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other values of the full-packet transmission period because said values are based upon the quality and reliability of the network communication channel.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Sasaki as modified by Degermark et al, Olsson et al, Loguinov et al, and Traversat et al to obtain the invention as specified in claims 11 and 12.

Consider claim 20, and as applied to claim 18 above, Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al disclose a header compression

Art Unit: 2616

apparatus wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11).

However Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al fail to disclose that the full-packet transmission period is decided as a first value if the packet retransmission ratio is at or above a predetermined high-level threshold; the full-packet transmission period is decided as a second value being greater than the first value if the packet retransmission ratio is at or below a predetermined low-level threshold; and the full-packet transmission period is decided as a third value between the first value and the second value if the packet retransmission ratio is between the low-level threshold and the high-level threshold.

In the same field of endeavor, Traversat et al disclose a method for establishing reliable connections between peers in a peer-to-peer networking environment wherein the size of the transmission window may be dynamically adjusted based upon evaluation of the retransmission ratio (abstract, page 17 paragraph [0185]).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to use the retransmission ratio to adjust the transmission window as disclosed by Traversat et al in the apparatus of Sasaki as modified by Degermark et al, Olsson et al and Loguinov et al in order to decide the full-packet transmission period.

Consider claims 21 and 22, and as applied to claim 20 above Sasaki as modified by Degermark et al, Olsson et al, Loguinov et al, and Traversat et al disclose a header

Art Unit: 2616

compression apparatus wherein full header packets (non compressed headers) are transmitted at periodic intervals (F_Max_Period) (Degermark: page 11) based upon the retransmission ratio (Traversat et al: abstract, page 17 paragraph [0185]).

However Sasaki as modified by Degermark et al, Olsson et al, Loguinov et al, and Traversat et al do not expressly disclose deciding the full-packet transmission period to be "1" or twice a third value.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to establish full-packet transmission periods values based on the quality and reliability of the network communication channel. Applicant has not disclosed that using a period of "1" or twice a third value provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other values of the full-packet transmission period because said values are based upon the quality and reliability of the network communication channel.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Sasaki as modified by Degermark et al, Olsson et al, Loguinov et al, and Traversat et al to obtain the invention as specified in claims 21 and 22.

Response to Arguments

15. Applicant's arguments with respect to claims 1 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miyazaki et al (United States Patent No.: 6,914,903 B1) teach a data transmission apparatus and method for transmitting an uncompressed packet followed by compressed packet. Yoshimura et al (United States Patent Publication No.: 2001/0048680 A1) teach a method and apparatus for packet transmission with header compression. Jacobson (Network Working Group Request for Comments 1144, February 1990) teaches a method for compressing TCP/IP headers. Olsson et al

Art Unit: 2616

(United States Patent No.: US 6,845,105 B1) disclose the problems of dropping packets with compressed headers. Fitzgerald (United States Patent No.; US 6,886,040 B1) discloses transmitting larger payloads during congestion in order to reduce the percentage of overhead.

18. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Viana Di Prisco whose telephone number is (571) 270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

German Viana Di Prisco
September 14, 2007



KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER

